Comment No.	Comment	Response
Colorado Department of Health and Environment (CDPHE) Comments		
	General Comments	
	None	
	Specific Comments	
1	Section 2.2 – Page 2-2, discussion of FC-2 states that the culverts were removed. However, the only remaining functional culvert is located in FC-2. As such, please change this discussion to properly recognize that not all of the culverts were removed and that at least one culvert remains operational. Also, some of the up-stream culverts were plugged and not removed.	The following phrase will be added to the end of the second sentence: ". . . in most cases, although one culvert does remain operational." A new sentence will be added after sentence 2 as follows: "Several culverts in the upstream portion of the FC-2 watershed (south and east of the former Building 371 site) were plugged on the ends and not removed."
2	Section 2.2 - The discussions of the 5 functional channels all state that the culverts have been removed. However, at least some of the culverts associated with each of these channels were plugged and remain. They were not all removed. Please change the discussions accordingly.	Please see response to CDPHE specific comment 1. The language will be clarified for FC-3, FC-4 and FC-5, as follows: For FC-3: "Several storm drains were plugged on the ends and left in place in the FC-3 watershed, including near the former Building 771/774 area, under the former Building 771 parking lot, and in the area between where SEPs 207C and 207A were formerly located" For FC-4: "Several culverts were left in place with plugged ends in the FC-4 watershed, including east and west of the former Building 460 area, and south of the former Building 460 and 444 areas." For FC-5: "The one culvert in the FC-5 watershed that was left in place and plugged on the ends is near the Mound (IHSS 113) remediation

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		site." Figure 2.8, Culverts and Drains, will be revised to show the locations where culverts were plugged and not removed, and remain below grade level.
3	Section 2.3 – Page 2-4, discussion regarding the Closeout Reports for the OPWL and NPWL Systems should properly identify the actual Closeout Reports that have been generated and approved. The Closeout report for the OPWLs is the Closeout Report for IHSS Group 000-2. The Closeout Report for the NPWLs is the Closeout Report for IHSS Group 000-4.	The incorrect Closeout Report numbers will be deleted from the Section 2.3 text, and the reader will be referred to Table 1.4, which has the correct Closeout Report numbers.
4	Figure 2.8 – Please modify this figure to properly show the remaining OPWL, which should be consistent with the IHSS Group 000-2 Closeout Report Figure 1, and should not include lines that do not exist, or show them distinctly different from the lines that are known to remain. In addition, please show all remaining NPWL, which should be consistent with the IHSS Group 000-4 Closeout Report Figure 1. Also, please change the color of the lines to make them easily visible, and show the remaining Valve Vaults and Manways associated with these systems.	Figure 2.8 will be revised to make it consistent with IHSS Group 000-2 Closeout Report Figure 1 (for OPWLs) and IHSS Group 000-4 Closeout Report Figure 1 (for NPWLs). Also, Figure 2.8 will be checked and updated as needed to include the remaining valve vaults and manways associated with these systems. Colors will be modified to enhance visibility.
5	Figure 2.5 – Please show all remaining building features. This should include, but is not limited to, remaining contaminated B730 slab, basement/vault of B373, remaining below grade tanks associated with the Sanitary Treatment Plant, including the B990 tanks, and basement walls and supports associated with B883. Also, there is remaining contamination associated with the remaining B447 slab/process waste lines, and the eastern extension of B374 (the east dock) was removed and does not remain as shown.	Figure 2.5 has been revised to show where building slabs, tunnels and foundations remain. The remaining B730 contaminated basement slab and B373 pump vault/basement slab have been added. The remaining Sanitary Treatment Plant foundation walls and slabs and B990 tanks have been added. The B883 foundation outline, indicating that below grade caissons also remain, has been added. The outline for B374 East Dock room has been removed.

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6	It is recommended that a figure be provided, or incorporate this information into Figure 2.5, to show areas with remaining rad contamination in the soil above 50 pCi/g associated with facilities remediation. This would include the remaining contamination next to (southeast) B774 (where the tanks were removed), under B779, under B776/777, under and around B730, and east-southeast of B374. This would provide specific information not easily identified or recognized from the other figures provided.	Section 3.0 contains the Nature and Extent of Soil Contamination after the accelerated actions were completed. Section 1.0 will be modified to clarify how RFCA action levels were developed and implemented at RFETS. 50 pCi/g represented a soil action level for plutonium 239/240. All planned accelerated actions were implemented or signed off as completed by EPA and CDPHE by March 2006. Consequently, "action levels" are no longer relevant to the discussion of site conditions at RFETS and are not used in the RI/FS evaluation.
7	Figure 2.7 – Please actually show all remaining storm drains and culverts (see the Data Summary Report for IHSS Group 000-3). Also, please properly show only remaining foundation/footing drains.	Figure 2.7 will be revised to show the remaining storm drains and culverts consistent with Figure 2 from the Data Summary Report for IHSS Group 000-3. Only the remaining foundation drains will be shown.
8	Figure 2.6 – Please also show all of the removed sewer lines and the sewer disruptions that removed sections of the sewer lines, such as (but not limited to) at B887, at Central Ave, north of B990, SW corner of B776, etc. This should be the same as shown on the figure provided in the B995 Closeout Report.	Figure 2.6 will be revised to show the remaining sewer lines consistent with Figure 2 in the B995 closeout report. The domestic water and raw water lines will continue to be shown on Figure 2.6.
9	Section 2.4.2.5 – Please modify this discussion of artificial fill to recognize the thickness of fill associated with buildings, which can be as much as 30 feet due to excavations during construction and demolition. B883 was 30 feet, as was 776/777, others were between 20 and 30 feet, such as B444, B865, B886, B881, 771/774, 371/374, etc. Construction of the PA also created thick fill. Also, the utility trenches were often quite deep, especially for the gravity drained sewer system (14+ feet deep) as it crossed the bedrock high (alluvial thin) in the 700-800 area. All of this construction activity ultimately lead to a much thicker disturbed soil zone than initially present through the IA.	The RI/FS Report presents site conditions immediately following completion of accelerated actions prior to any soil backfilling or recontouring to match the surrounding geomorphology. Consequently, the RI/FS Report does not represent the final configuration of the site. This approach provides a conservative representation of contamination remaining in soil at RFETS because it does not take into account the additional protectiveness provided by the added clean soil. Therefore, no change was made to the text. In terms of the environmental medium classification for the samples used in this section, they are as documented during sample collection. That is, no attempt has been made to alter the

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		environmental medium classification based on post-accelerated action land configuration. For example, confirmation samples collected from the floor of excavation areas are designated as surface soil samples. Although the samples are not at the surface after clean backfill was placed in the excavation, the samples are still classified as surface soil samples. For this RI/FS evaluation, the surface and subsurface soil depth profiles of soil samples have not been adjusted to account for soil backfilling and recontouring.
10	Section 2.4.4 – Please appropriately modify the statement that groundwater from the western part of the site does not reach the IA OU. Although it is recognized that a significant amount of groundwater is diverted into the drainages before reaching the IA, as shown by the historical potentiometric surface maps, at least some groundwater appears to flow from the west through the IA.	The last sentence of section 2.4.4 will be modified to read as follows: "The majority of groundwater from the western part of the site diverges to drainages on the north and south, and therefore does not reach the IA OU." This explanation allows for a small fraction of the groundwater west of the site to reach the IA OU. The reference to the Site-Wide Water Balance Study in the RI/FS report (K-H 2002a) is included because it provides a description (Appendix B, p. B-93) which indicates there is very little groundwater inflow to the IA from the west.
11	Section 2.4.6 – 4th paragraph - Please modify this discussion to recognize that the physical activity has been completed, and to recognize that manmade structures remain.	Text in Section 2.4.6 (fourth paragraph) was revised to read as follows: "Areas of the site have been graded and revegetated as necessary to account for removal of manmade features (though some manmade features remain), and taking erosion processes into consideration."
12	Section 2.4.7 – Figures 2.11 and 2.14 – This discussion and figures should be properly modified to show/discuss the actual conditions at Rocky Flats or identify that these are historical pre-rocky flats, or only partly complete physical closure	Figure 2.11 (Geologic Units at the RFETS) was produced by the USGS (Shroba and Carrera) in 1994. It is cited as an independent survey of the RFETS geologic units, but it is recognized that for the post-closure condition the artificial

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	representations of site conditions. Please address why Fig. 2.11 appears to show only some of the disturbed areas rather than all of the known disturbed/filled areas.	fill/disturbed area is much larger than was mapped in 1994. Figure 2.11 will be modified to indicate that virtually all the area within the IA OU has been disturbed.
13	Section 2.6.3, page 2-23 - Typo in first sentence: "RFETS is located ***in near*** a regional . . . ."	"in" will be deleted from the sentence.
14	Table 2.3 – Please check on the appropriate management/operating protocol for the Landfill Pond. It is our understanding that this pond will be Batch-release not flow-through. We are to sample the water before release, as with all of the terminal ponds (A-4, B-5, C-2). Please change to reflect it to be Batch-release.	No change will be made to the text because the East Landfill Pond will be operated using a flow-through protocol.
15	Table 2.4 – Please provide an explanation why no discharge estimates have been provided for No Name Gulch. Did the model predict that no discharges would occur, or was the model not run for this area? According to the discussion in Section 2.5.2.2 No Name Gulch should receive increased runoff after closure (all others will decrease). As such, please provide the appropriate information and discussion.	Model runs current with the other areas at the site were not conducted for the entire No Name Gulch basin. Therefore, No Name Gulch (as measured at gaging station GS33, at the confluence of No Name Gulch and Walnut Creek) will not be included in Table 2.4. Modeling for the Present Landfill area discussed in the Present Landfill IM/IRA indicates that overland flow in the Present Landfill Area is predicted to be very minor.
	Editorial Comments	
	None	
	Environmental Protection Agency (EPA) Comments	
	General Comments	
1	In Section 2.5, the summary description should be expanded to document Rocky Flats within the context of the regional watershed. The presentation of the hydrology would be improved with an opening description such as found in the Technical Memorandum, Final Work Plan, Operable Unit 7, Volume 1, Section 2.6.1 (EG&G, 1994).	A new introductory paragraph will be added at the beginning of Section 2.5 as follows: "The majority of the RFETS drainage area lies in the upper reaches of the 86-square-mile Big Dry Creek basin. Big Dry Creek joins the South Platte River approximately 40 miles northeast of RFETS, near Brighton, Colorado. The smaller portion of RFETS not in the Big Dry Creek basin lies in the Rock Creek watershed, which is part of the Boulder Creek basin.

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		To the west, RFETS is hydrologically separated from the foothills by Coal Creek, located approximately 1 mile west of the site's western boundary."
	Specific Comments	
1	**Page 2-4, Section 2.3:** This section discusses OPWL and NPWL remaining in the subsurface. The OPWL and NPWL left in place should be identified in a figure.	The text in Section 2.3 currently indicates that process waste lines are shown on Figure 2.8. The text will be expanded to clarify that both OPWLs and NPWLs are shown on Figure 2.8.
2	**Page 2-7, Section 2.4.3:** The first two sentences discussing unconformity appear to conflict in its interpretation. Please rephrase.	To provide clarification and eliminate apparent conflicts in interpretation, the text in Section 2.4.3 has been revised as follows: "The bedrock surface that makes up the unconformity comprises the irregular, undulating surface of the pediment...."
3	**Page 2-12, Section 2.5, First paragraph:** The text refers to streams and seeps as being 'ephemeral or intermittent', without providing a definition for the terminology. Please provide a definition for the terms.	The following definitions for ephemeral and intermittent streams (from the U.S. Army Corps of Engineers) will be added as footnotes to the text: - Ephemeral stream - A stream that has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow in an ephemeral stream. Intermittent stream - A stream that has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow in an intermittent stream.

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4	**Page 2-12, Section 2.5, first and last paragraphs:** The first paragraph cites Figure 2.15. This should be changed to cite Figure 2.1 (i.e., shows the four drainages).	The figure citation will be corrected per the comment.
5	**Page 2-13, Section 2.5.2.1, first paragraph, last sentence:** The figure cited does not contain the information referenced. Please change the citation from Figure 2.1 to Figure 2.15.	The McKay Ditch pipeline alignment will be added to Figure 2.1 (and the citation to Fig. 2.1 will remain the same).
6	**Page 2-13, Section 2.5.2.1, second paragraph:** The location of the diversion wall and the wildlife habitat is discussed in the text. EPA recommends the diversion wall be identified on a figure.	The location of the McKay Bypass pipeline and associated diversion wall will be added to Figure 2.1.
7	**Page 2-14, Section 2.5.2.2:** The figures associated with the text in this section do not show No Name Gulch around the present landfill. Please add this to a figure.	"No Name Gulch" will be added to Figure 2.1 and Figure 2.15 (No Name Gulch is already shown on Figs. 2.2 and 2.3).
8	**Page 2-15, Section 2.5.2.3 and Table 2.3:** Neither the text or table provide a description of the piping and flow between the A and B series pond. Please clarify the current operating protocol related to water transfers in the ponds.	The text in Table 2.3 will be expanded to provide a description of the piping and flow between the ponds, as well as the current operating protocol for water transfers between the ponds.
9	**Page 2-15, Section 2.5.2.3/Section 2.5.2.4, Page 2-16, Section 2.5.2.5:** The report states that hydrology of the South Walnut Creek, North Walnut Creek, and Walnut Creek is expected to differ from the pre-accelerated action conditions. The text in these sections does not provide a summary of the anticipated (post accelerated action) surface water conditions in the ponds. Please provide a description of the estimated pond levels/volumes based on the anticipated annual discharge volumes presented in the text.	The estimated pond levels and volumes in the post-accelerated action site condition are directly influenced by the planned protocol for operating the ponds. Because it's known there will be less inflow to the ponds than in the past (referring to the ponds that have baseflow and storm runoff routed into them under routine conditions [A-3, A-4, B-5, and C-2]), new paragraphs will be added to Sections 2.5.2.3 (related to North Walnut Creek), 2.5.2.4 (related to South Walnut Creek), and 2.5.3.1 (related to the South Interceptor Ditch), as follows: At the end of Section 2.5.2.3 (related to North Walnut Creek): "Because there will be less inflow to the North Walnut Creek ponds than in the past (specifically Ponds A-3 and A-4, which have stream flows routed into them under routine conditions), the ponds are expected to fill more slowly and be discharged less frequently. Therefore, the levels in these ponds will change

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		more slowly than during the pre-accelerated action conditions, though their average pool depth may not vary significantly over time. With respect to the North Walnut Creek interior ponds that are off-line from routine flow routing (Ponds A-1 and A-2), the average pool level could reasonably be expected to be lower compared to the pre-accelerated action pond conditions." At the end of Section 2.5.2.4 (related to South Walnut Creek) as follows: "Because there will be less inflow to the South Walnut Creek ponds than in the past (specifically Pond B-5, which has stream flows routed into it during routine conditions), Pond B-5 is expected to fill more slowly and be discharged less frequently. Therefore, the levels in Pond B-5 will change more slowly than during pre-accelerated action conditions, though its average pool depth may not vary significantly compared to the average pool depth in the pre-accelerated action condition. With respect to the interior B-series ponds that are off-line from routine flow routing (B-1, B-2, B-3), the average pool level could reasonably be expected to be lower compared to the pre-accelerated action pond conditions. Pond B-4 is operated as a flow-through pond and is not expected to vary considerably compared with its pre-accelerated action condition." In Section 2.5.3.5 (related to Pond C-1 Woman Creek): "Because Pond C-1 is operated as a flow-through pond, and its reconfigured pool level is similar to the historic pool level, and the Woman Creek flows are not affected substantially by the accelerated actions at the site, the levels in Pond C-1 are not expected to vary considerably compared with its pre-accelerated

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		action condition." In Section 2.5.3.5 (related to Pond C-2 in Woman Creek): "Therefore, the levels in Pond C-2 will change more slowly than during pre-accelerated action conditions, though its average pool depth may not vary significantly, over an extended period of time, compared with the pre-accelerated action condition."
10	**Page 2-14, Section 2.5.2.3:** The text and tables do not provide any information regarding Pond A-5. Please provide information on Pond A-5 in the text and tables.	A description of the "Flume Pond" (also referred to as "Pond A-5") will be added to Section 2.5.2.5, which addresses Walnut Creek downstream from terminal ponds A-4 and B-5. The new text will read as follows: "Water in the lower reach of Walnut Creek flows through the 'Flume Pond,' a small (less than one acre-foot), unmanaged pond located approximately 300 feet west of the RFETS boundary at Indiana Street." The Flume Pond will also be added to Table 2.3. It is noted that "Flume Pond" is a preferred name, versus "Pond A-5", since it should not be inferred to be one of the managed A-Series ponds on North Walnut Creek.
11	**Page 2-18, Section 2.5.3.2:** The text refers to "North Woman Creek" but this feature is not identified on the corresponding figures (Figures 2.1 and 2.15). Please revise the figures.	Upon review and further investigation, it was determined that the text should be modified and Figures 2.1 and 2.15 should remain the same. "North Woman Creek" is actually the westernmost portion of the main stem of Woman Creek. The text will be changed accordingly.
12	**Page 2-23, Section 2.6.3:** Regarding the first sentence, please	Change made.

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	correct by removing the word "in".	
13	**Page 2-36, Section 2.9.1.3 and Figure 2.22:** The text provides a general description of wetland features associated with the site. However, there is no discussion of how wetlands were designated, and a figure indicating the onsite wetland areas are not presented. In addition, Figure 2.22 includes a "Note" indicating that federally designated wetlands are on a map prepared by the US Army Corp of Engineers, but this figure is not included in this report. The RI needs to be revised to include wetland maps and provide a brief discussion of wetland areas.	The following text was added to Section 2.9.1.3: "A site-wide wetlands delineation and characterization study was conducted by the U.S. Army Corps of Engineers in 1994 (USACE 1994) and coordinated with the EPA, Colorado Division of Wildlife, U.S. Department of Agriculture Soil Conservation Service, and the Regulatory Branch of the USACE. The study, which utilized the USFWS classification system and the 1987 USACE Wetland Delineation Manual as guidelines for the wetlands delineation process, provided the basis for the site-wide wetlands map presented on Figure 2.25". As noted in the new text, a figure (Figure 2.25) will be added that shows the wetland delineation map developed by the U.S. Corps of Engineers in 1995.
	Editorial Comments	
	None	
	U.S. Fish and Wildlife Service's (USFWS) Comments	
	General Comments	
	None	
	Specific Comments	
1	**Section 2.5** – There should be some general discussion of both the upstream and downstream sections of the drainages, so that there is a regional understanding of the hydrology. Also some discussion of the fact that the streams are gaining in some reaches and losing in others should be added.	A new introductory paragraph will be added at the beginning of Section 2.5 as follows: "The majority of the RFETS drainage area lies in the upper reaches of the 86-square mile Big Dry Creek Basin. Big Dry Creek joins the South Platte River approximately 40 miles northeast of RFETS, near Brighton, Colorado. The smaller portion of RFETS not in the Big Dry Creek basin lies in the Rock Creek watershed, which is part of the Boulder Creek basin. To the west, RFETS is hydrologically separated from the

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		foothills by Coal Creek, located approximately one mile west of the site's western boundary." Also please note that a discussion of the hydrology east of the the site is provided for both Walnut Creek (Section 2.5.2.6) and Woman Creek (Section 2.5.3.6). The following text will be added at the beginning of Section 2.5 to address the subject of gaining and losing stream reaches: "Streams and seeps at RFETS are largely ephemeral or intermittent. Stream reaches gain flow (from groundwater discharging to the surface), or lose flow (from surface water recharges to groundwater, plant evapotranspiration [ET], and other factors) depending on the season and precipitation amounts."
2	**Section 2.5.2.2, page 2-14** – There should be discussion of the fact that the Present Landfill and the East Landfill Pond were actually constructed over the headwaters of No Name Gulch. No Name Gulch is not located downstream of the East Landfill pond, but the landfill and the pond are located in No Name Gulch.	Text will be added to the first paragraph of Section 2.5.2.2 as follows: "The headwaters of the drainage contain the Present Landfill and East Landfill Pond" Text will be deleted that indicates that No Name Gulch is downstream from the East Landfill Pond.
3	**Section 2.9.2.7** – This entire section should be deleted. The Physical Characteristics Section is not the place for this discussion. This should be incorporated into the CRA.	Section 2.9.2.7 text, regarding the potential effects of contamination on wildlife and vegetation, will be deleted from Section 2 and incorporated into the CRA.
4	**Figure 2.4** – Number 29, electric power line – There is no easement for this line, please remove from map. Please check on number 28 as well.	Figure 2.4 will remain the same (because the legend indicates that there are no easements for the power lines noted in the comment). However, Table 2.9 will have the following changes made:

Comment No.	Comment	Response
		1) Item 28 will be changed to "N/A (DOE-owned telecommunications line)" in the easement/license holder column. 2) Item 29 will be changed to "No easement documentation" in the easement/license holder column and "(29) No recording information available" for the recording information column.
	Editorial Comments	
	None	